

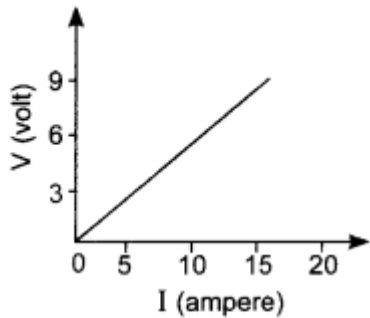
INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS:X SUBJECT: PHYSICS DATE:19/10/23

LESSON: ELECTRICITY

1. A wire of length  $l$ , made of material resistivity  $\rho$  is cut into two equal parts. The resistivity of the two parts are equal to,  
(a)  $\rho$   
(b)  $\rho^2$   
(c)  $2\rho$   
(d)  $4\rho$
2. 4. A boy records that 4000 joule of work is required to transfer 10 coulomb of charge between two points of a resistor of  $50\ \Omega$ . The current passing through it is  
(a) 2 A  
(b) 4 A  
(c) 8 A  
(d) 16 A
3. The resistance whose V-I graph is given below is



- (a)  $\frac{5}{3}\ \Omega$                       (b)  $\frac{3}{5}\ \Omega$
  - (c)  $\frac{5}{2}\ \Omega$                       (d)  $\frac{2}{5}\ \Omega$
4. 6. To get  $2\ \Omega$  resistance using only  $6\ \Omega$  resistors, the number of them required is  
(a) 2  
(b) 3  
(c) 4  
(d) 6
  5. 8. Two devices are connected between two points say A and B in parallel. The physical quantity that will remain the same between the two points is  
(a) current  
(b) voltage

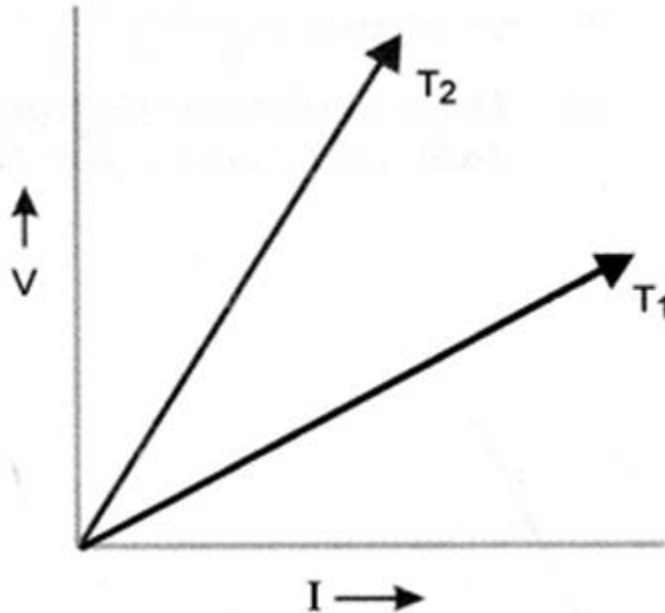
(c) resistance

(d) None of these

6. Draw a schematic diagram of a circuit consisting of a battery of 12V, three resistors of  $5\Omega$ ,  $10\Omega$  and  $20\Omega$  connected in parallel, an ammeter to measure the total current through the circuit, voltmeter to measure the potential difference across the combination of resistors.
7. State the law that gives the relationship between the potential difference (V) across the two ends of a conductor and the current (I) flowing through it.
8. The voltage – current (V-I) graph of a metallic circuit at two different temperature  $T_1$  and  $T_2$  is shown. Which of the two temperatures is higher and why ?

Or

The voltage-current (V-I) graph of a metallic conductor at two different temperatures  $T_1$  and  $T_2$  is shown in figure. At which temperature is the resistance higher?



9. Assertion (A) : Alloys are commonly used in electrical heating devices like electric iron and heater.  
Reason (R): Resistivity of an alloy is generally higher than that of its constituent metals but the alloys have low melting points than their constituent metals.  
(a) Both (A) and (R) are true and (R) is the correct explanation of the assertion (A).  
(b) Both (A) and (R) are true, but (R) is not the correct explanation of the assertion (A).  
(c) (A) is true, but (R) is false.  
(d) (A) is false, but (R) is true.

10. Assertion (A) : The metals and alloys are good conductors of electricity.  
Reason (R) : Bronze is an alloy of copper and tin and it is not a good conductor of electricity.
- (a) Both (A) and (R) are true and (R) is the correct explanation of the assertion (A).
  - (b) Both (A) and (R) are true, but (R) is not the correct explanation of the assertion (A).
  - (c) (A) is true, but (R) is false.
  - (d) (A) is false, but (R) is true.